LISTING OF CLAIMS:

1. (Previously presented) A method of delivering an oligonucleotide into a target cell comprising: a) introducing the oligonucleotide or a plasmid expressing the oligonucleotide into a donor cell in vitro; and b) contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the oligonucleotide is delivered into the target cell from the donor cell by traversing the gap junction and wherein the oligonucleotide is 12-24 nucleotides in length.

2. (Previously presented) The method of claim 1, wherein the oligonucleotide is RNA that can traverse the gap junction.

3. (Original) The method of claim 1, wherein the oligonucleotide is DNA.

4. (Previously presented) The method of claim 1, wherein the oligonucleotide is an antisense oligonucleotide.

5. (Previously presented) The method of claim 1, wherein the oligonucleotide is a siRNA.

6. (Cancelled).

7. (Original) The method of claim 1, wherein the plasmid encodes siRNA.

8. (Previously presented) The method of claim 1, wherein the oligonucleotide is 18-22 nucleotides in length.

9. (Original) The method of claim 1, wherein the donor cell is a human mesenchymal stem cell.

10. (Previously presented) The method of claim 1, wherein the donor cell is a cell engineered to contain connexin 43.

11. (Original) The method of claim 1, wherein the target cell is present in a syncytial tissue.

12. (Original) The method of claim 11, wherein the cell in the syncytial tissue is selected from the group consisting of a cardiac myocyte, a smooth muscle cell, an epithelial cell, a connective tissue cell, and a syncytial cancer cell.

13. (Previously presented) The method of claim 1, wherein the target cell is a white blood cell.

14-19. (Cancelled).

20. (Previously presented) A method of delivering an oligonucleotide into a target cell comprising: a) introducing the oligonucleotide into a human mesenchymal stem cell or other donor cell in vitro; and b) contacting the target cell with the human mesenchymal stem cell or other donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the oligonucleotide is delivered into the target cell from the donor cell by traversing the gap junction and wherein the oligonucleotide is 12-24 nucleotides in length.

21. (Previously presented) A method of delivering an oligonucleotide into a syncytial target cell comprising: a) introducing the oligonucleotide into a donor cell in vitro; and b) contacting the syncytial target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel with the syncytial target cell, whereby the oligonucleotide is delivered into the syncytial target cell from the donor cell by traversing the gap junction wherein the gap junction is composed of connexin 43 and wherein the oligonucleotide is 12-24 nucleotides in length.

22. (Previously presented) A method of delivering RNA into a target cell comprising: a) introducing RNA or a plasmid transcribable into RNA into a donor cell in vitro; and b) contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the RNA is delivered into the target cell from the donor cell by traversing the gap junction and wherein the RNA is 12-24 nucleotides in length.

23. (Previously presented) A method of delivering DNA into a target cell comprising: a) introducing a DNA or a plasmid coding for the DNA into a donor cell in vitro; and b) contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the

DNA is delivered into the target cell from the donor cell by traversing the gap junction and wherein the DNA is 12-24 nucleotides in length.

24. (Cancelled).

25. (New) The method of claim 20, wherein the donor cell is a human mesenchymal stem cell.

26. (New) The method of claim 21, wherein the donor cell is a human mesenchymal stem cell.

27. (New) The method of claim 22, wherein the donor cell is a human mesenchymal stem cell.

28. (New) The method of claim 23, wherein the donor cell is a human mesenchymal stem cell.